**Unit 11 (Molecular Genetics): “From Gene to Protein” Key Terms**

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Nucleotides are the building blocks (monomers) of RNA and DNA. RNA molecules consist of a single strand of nucleotides, and DNA molecules consist of a single strand of nucleotides.

Each nucleotide is made up of three parts: a phosphate group, a 5 carbon (aka pentose) sugar, and a nitrogenous base (A, C, G, T/U)

During transcription, the order of nitrogenous bases on DNA determines the order of complementary bases on the mRNA molecule that is created from that DNA sequence. A group of three bases on an mRNA molecule is called a codon. (Sometimes, the group of three bases on DNA that codes for a particular codon is called a DNA triplet.)

During translation, one codon codes for the addition of a single amino acid (i.e. the monomer of a protein) to the growing polypeptide chain (i.e. the polymer of a protein).

When asked to identify the amino acid coded for by an mRNA codon (like in the sample transcription / translation problem given on the next page) you will use a codon chart like the charts given below. Typically, the full name of an amino acid is abbreviated to its first three letters (ex: glycine 🡪 gly).

**Codon Charts:**



